0073134

# SAF-RC-040
# 300 Area D&D Waste Characterization Sampling - Other Solid FINAL DATA PACKAGE

**COMPLETE COPY OF DATA PACKAGE TO:**

Renee Nielson L1-01 KW 6/14/07
INITIAL/DATE

**COMMENTS:**

**SDG** 07-T-3117 **SAF-RC-040**

Rad only X Chem only Rad & Chem

X Complete Partial

**Sample Location/Waste Site: 300 Area / 3746 Building**


***SUBMITTED TO:***

Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue, MSIN H4-21
Richland, WA 99354

***REFERENCE DATA***

| | |
|---|---|
| Client Sample Nos.: | J155N9 |
| P.O. Number: | Not Available |
| Sample Location: | 300 Area / 3746 Building |
| Sample Type: | Dust Collected on Textile |
| Method Reference: | EPA/600/R-93/116, Asbestos by TEM, modified |
| DCL Set ID No.: | 07-T-3117 |
| DCL Sample ID Nos.: | 07-17778 |
| Date Received: | 6/8/2007 |
| Preparation Date: | 6/13/2007 |
| Analysis Date: | 6/13/2007 |

We certify that the samples indicated on the following data sheet were analyzed by Transmission Electron Microscopy (TEM) using the method, EPA/600/R-93/116, for determining the amount and type of asbestos present in bulk building materials, with a modified prep for dust collected on textile. We initially examined the material by stereomicroscope and polarized light microscopy (PLM) for large-sized asbestos fibers. To test for asbestos fibers that would be too small to detect using PLM, we cut open the seams of the textile, and sonicated the sample in a DI water/alcohol mixture, to remove the dust collected in the seams. We filtered portions of the suspension onto 0.22-micron MCE filters, then prepared the filters for TEM analysis.

Analysis was performed on a Philips CM-12 TEM with EDAX Genesis System. Selected area electron diffraction (SAED) patterns and EDXA spectra were used to determine fiber species. Estimates of asbestos concentration are made on an area basis. Representative EDXA spectra of asbestos types detected are included. Results apply only to portions of samples analyzed and are tabulated on the following data sheet. DataChem Laboratories will dispose of bulk samples after 60 days unless other arrangements are made.

Angela Sohn
Analyst

Anna Marie Ristich
Section Manager



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RC-041

# DataChem Laboratories
# TEM Bulk Asbestos Test Report

DCL Sample Set ID: 07-T-3117
Client: Washington Closure Hanford
Sample Location: 300 Area 3746 Building

## ANALYSIS DATA

| | | | |
|---|---|---|---|
| Calibration Date: | 6/12/2007 | Magnification: | 9,690 X |
| EDXA Resolution: | 167.4 eV | Calibration Constant: | 1 cm = 1.03 μm |
| Accelerating Voltage: | 100 keV | Camera Constant: | 31.97 mm-Å |

## SAMPLE ID

| | |
|---|---|
| Client Sample ID | **J155N9 |
| DCL Sample ID | 07-17778 |

## MACROSCOPIC EXAMINATION

| | |
|---|---|
| Accepted/Rejected | Accepted |
| Homogeneity | Homog. |
| Color | Grey |
| Texture | Powdery |
| Description | Dust Collected on Textile |

## ASBESTIFORM MINERALS

| | |
|---|---|
| % Chrysotile | >3≤5 |
| % Amosite | |
| % Crocidolite | |
| % Tremolite - Actinolite | |
| % Anthophyllite | |
| **% TOTAL ASBESTOS** | **>3≤5** |

NOTES: *ND = None Detected* *TRACE = <1%*

**Comments: Per client request, the dust collected in the seams of Sample J155N9 was separated from the textile and analyzed for asbestos.

Angela Sohn
Analyst

Anna Marie Ristich
Section Manager

3111

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | RC-040-304 | Page 1 of 1 |
|---|---|---|---|---|
| **Collector**<br>Tom Edmundson | **Company Contact**<br>Renee Nielson | **Telephone No.**<br>376-6924 | **Project Coordinator**<br>KESSNER, JH | **Price Code** 9K<br>**Data Turnaround** 7 Days |
| **Project Designation**<br>300 Area D&D Waste Characterization Sampling - Other Soli | **Sampling Location**<br>300 Area/3746 Building | | **SAF No.**<br>RC-040 | |
| **Ice Chest No.**<br>FED EX BOX | **Field Logbook No.**<br>EL-1518-7 | **COA**<br>R374601000 | **Method of Shipment**<br>Federal Express | |
| **Shipped To**<br>DataChem Laboratories - Cincinnati | **Offsite Property No.**<br>~~See OSPC~~ TRE 6-6-06 A070298 | | **Bill of Lading/Air Bill No.**<br>SEE OSPC | |

| POSSIBLE SAMPLE HAZARDS/REMARKS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Asbestos* | **Preservation** | None | | | | | | | | | | | |
| **Special Handling and/or Storage** | **Type of Container** | P | | | | | | | | | | | |
| *N/A* | **No. of Container(s)** | 1 | | | | | | | | | | | |
| | **Volume** | 5g | | | | | | | | | | | |
| **SAMPLE ANALYSIS** | | Asbestos-BULK-EPA | | | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J155N9 | OTHER SOLID | 6/6/07 | 1320 | X | 07-1778 | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From<br>T. Edmundson<br>T. Edmundson 6-6-07 1510 | Date/Time | Received By/Stored In<br>3728 #3A 6-6-07 1510 | Date/Time |
| Relinquished By/Removed From<br>3728 #3A 6-7-07 1050 | Date/Time | Received By/Stored In<br>K.M. Singleton 6-7-07 | Date/Time 1050 |
| Relinquished By/Removed From<br>K.M. Singleton 6-7-07 1500 | Date/Time 4CH | Received By/Stored In<br>FEDEX | Date/Time |
| Relinquished By/Removed From<br>FEDEX | Date/Time | Received By/Stored In<br>[signature] | Date/Time 6/8/07 1217 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**
Contact Joan Kessner prior to analysis.

Sampler unavailable to relinquish samples from 3728 Ref # 3A. 3728 Custodian removed samples for shipping on 6/7/07.

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| | [signature] | | 6/8/07 1217 |
| **FINAL SAMPLE DISPOSITION** | Disposal Method | Disposed By | Date/Time |

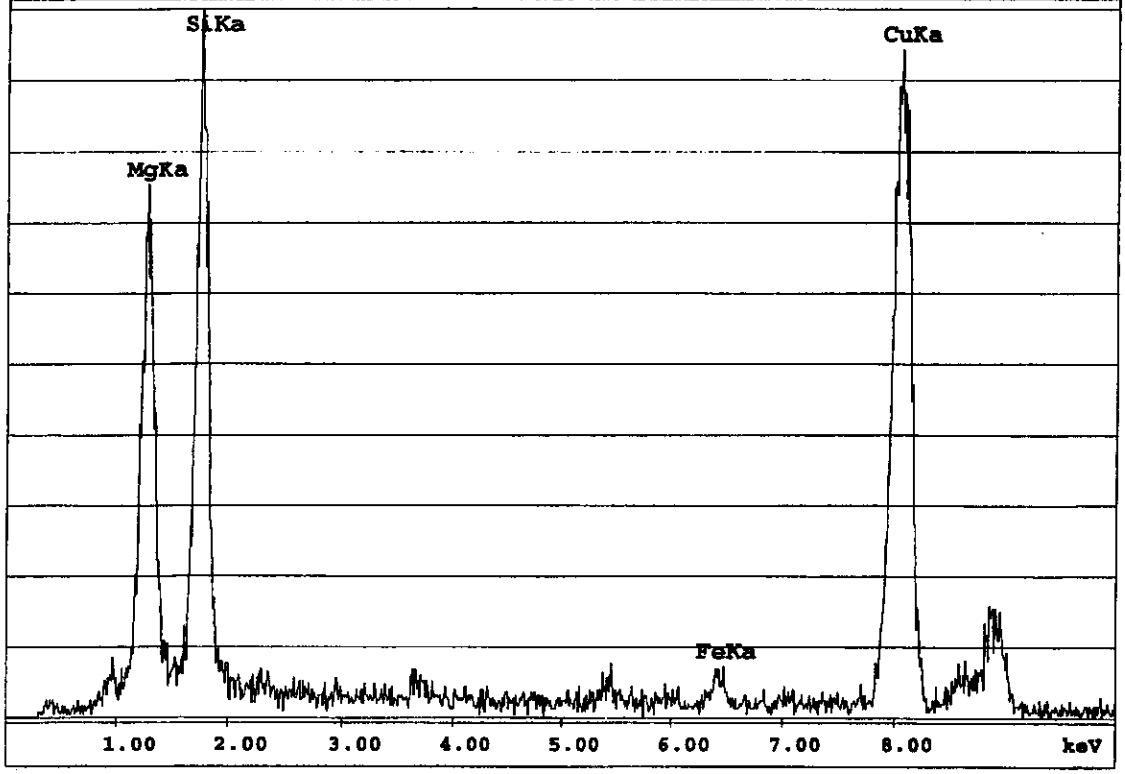
WCH-EE-011

C:\Documents and Settings\TEM EDAX\My Documents\2007 Sample Data\Bulk\07-T-3117 WCH\07 17778 Chrysotile.spc

Label:07 17778 Chrysotile

kV:100.0 X Tilt:25.0 Y Tilt:0.0 Det Type:STD+ Res:167 Amp.T:35.0

FS : 248 Lsec : 16 13-Jun-2007 15:14:12



## Kessner, Joan H

**From:** Anna Ristich [amristich@datachemlabs.com]
**Sent:** Wednesday, June 13, 2007 1:16 PM
**To:** Kessner, Joan H
**Subject:** TEM Results for Dust on Hood Seams 3117
**Attachments:** 07-AT-3117 TEM Dust.pdf

Hi Joan,

Angela was able to finish the TEM analysis of J155N9 (the dust collected in the hood seams). She did find chrysotile asbestos in the dust; the fibers would have been too small to detect by PLM, which is why Shawn did not find them.

We did not really try to identify the non-asbestos particles in the dust in this sample. The material listed as "Other Fibers" on the PLM report are the fibers of the textile itself.

Anna

PS I have not sent this to the group yet.

Anna Marie Ristich
Microscopy Section Manager
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